

BLAGG, L	(Don Tank, Operator)	- EAST ON THE 320	ONAWA, IOWA
MARCH 20, 1981 - WELL - 103'			
103'			
LOG			
0' - 5' Top Soil	60'-66' Black Sand (Blanked)		
5' - 20' Brown Clay	66'-74' Gravel		
20'- 25' Sand & Blue Clay	74'-78' Gravel/Coal		
25'- 30' Gravel	78'-82' Black Sand (Blanked)		
30'- 35' Black Sand	82'-86' Gravel		
35'- 50' Black Sand	86'-88' Black Sand (Blanked)		
50'- 55' Gravel	88'-92' Gravel		
55'- 60' Grave/Black Sand	92'-96' Black Sand (Blanked)		
	96'-103' Gravel		

39' - 16" Transite Casing, Screen			
64' - 16" Transite Casing, Plain			
West Point Gravel			

BLAGG, L	(Don Tank - Operator)	SOUTH 160	Onawa, Iowa
MARCH 23, 1981 - WELL - 95'			
95'			
LOG			
0' - 5' Top Soil	70'-72' Sand (Blanked)		
5' - 15' Clay	72'-84' Gravel		
15'- 25' Sand	84'-88' Sand		
25'- 40' Black Sand	88'-95' Gravel		
40'- 55' Black Sand	*****		
55'- 60' Sand & Gravel			
60'- 70' Black Sand			
26' 16" Transite Casing, Screen			
69' 16" Transite Casing, Plain			
West Point Gravel			

BLAGG, L	(Don Tank, Operator)	WEST - 320	ONAWA, IOWA
MARCH 21, 1981 - WELL - 100'			
100'			
LOG			
0' - 5' Top Soil	62'-72' Gravel		
5' - 20' Brown Clay	72'-78' Black Sand (Blanked)		
20'- 35' Blue Clay			
35'- 40' Black Sand	78'-100' Gravel		
40'- 55' Black Sand	*****		
55'- 58' Gravel			
58'- 62' Black Sand			
62'- 62' (Blanked)			
39' - 16" Transite Casing, Screen			

9-26-69

STATE		COUNTY		LATITUDE							LONGITUDE							SEQ. NO.
				DEG.		MIN.		SEC.		N or S	DEG.		MIN.		SEC.			
1	2	3	4	5	6	7	8	9	10		11	12	13	14	15	16	17	18
1	9	6	7	4	2	0	1	4	6	N	0	9	6	0	5	4	6	2

US GEOLOGICAL SURVEY

IOWA DISTRICT WRD

OWNER ONAWA CITY (1946) ADDRESS ONAWA, IOWA

DRILLER LAYNE WESTERN DATE DRLD. MAY 1946

MAP 1:63,360 COUNTY HWY.

SOURCE OF DATA FILE

DESCRIPTION M. P. LSD FEET (ABOVE) LSD 1043 FT.
(BELOW)

[illegible]

DUPLICATE CARD A CC 1-19	DEPTH OF WELL			ACCURACY	DEPTH CASED OR FIRST PERF.				DIAM. INCHES		WELL METH. DRILLED	YEAR DRILLED	PUMP SETTING			METH. LIFT DEEP SHALLOW	POWER	ALTITUDE OF LSD (FEET)					ACCURACY	WATER LEVEL (FEET)		ACCURACY	DATE		YIELD OF WELL (GPM)					METH. DET.	DRAW- DOWN (FEET)		ACCURACY	PUMPING PERIOD (HOURS)				QUALITY OF WATER					CARD																								
	20	21	22		23	24	25	26	27	28			29	30	31			32	33	34	35	36		37	38		39	40	41	42	43	44	45		46	47		48	49	50	51	52	53	54	55	56		57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
	1	2	2	3					1	6	6		9	4	6										1	0	4	3	7			1	1	D	7	4	6			9	8	0				8	3					5	2	1	7	4		5	5	0	6	0	B								

[illegible]

86 FT. OF 16" PIPE.

CODED BY D. AARONSON DATE 9 JULY 1970

PUNCHED BY 7 DATE

VERIFIED BY [Signature] DATE _____

SKETCH ON REVERSE: YES _____ NO ✓

		4	
①			

WELL NO. 083-45W-04CBC

UNITED STATES DEPARTMENT OF THE INTERIOR

Geological Survey
Water Resources Division

Local Well No. 0B3-45W-04CBC

Aquifer Code(s) Q66X

Water Quality
(ppm)

Owner's Name ONAWA CITY (1946)

W Number 02389

Card Q

State: Iowa 19 County: MONONA 67 Town: ONAWA, Iowa

Well No. 420146N 0960546 Seq. No. 2 Date 100160

Latitude Longitude

Sampling Depth 122 Type 1 Kx10⁶ 857 pH 7.6 Temp. °F 55

SiO₂ 371 Ca 126 Mg 301 Na 191 K 6.7

HCO₃ 525 CO₃ 0 SO₄ 461 Cl 111 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 4 NO₃ 4 PO₄ 4 B 4 Al 4 Fe 21

Mn 36 Cu 36 Pb 36 Zn 36

Determined 307 Solids 307 Calc. 307 Ca, Mg 440 Hardness Non-Carb. 10

Color 30 No. R

Card S

Duplicate Columns 1-25 from Card Q

Br 430 I 430 Alk. as CaCO₃ 430 Free CO₂ 430 SAR 430

RSC 430 ABS 430 430 430

Alpha (pc/l) 430 Beta (pc/l) 430 Ra (pc/l) 430 U (ug/l) 430

No. S
80

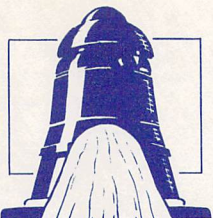
Recorded by: D. AARONSON

Punched by: T Date:

Published:

LAYNE WELLS
AND
LAYNE PUMPS

FACTORIES:
MEMPHIS, TENN.
HOUSTON, TEXAS
LOS ANGELES, CALIF.



LAYNE-WESTERN COMPANY

AFFILIATED WITH LAYNE & BOWLER, INC.

TELEPHONE KENWOOD 5888

4430 COMMERCIAL AVENUE
OMAHA 11, NEBRASKA
August 2, 1946

Iowa Geological Survey
Geology Annex
Iowa City, Iowa

Att: Dr. H. G. Hershey

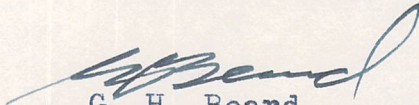
Dear Dr. Hershey:

Thank you very much for your letter of July 29
with geologic log enclosed on the Onawa, Iowa
well which we recently completed.

It is particularly interesting to note that
there is glacial drift in the Missouri River
Valley at this point.

Yours very truly,

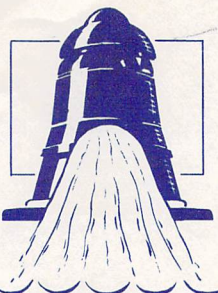
LAYNE-WESTERN COMPANY


G. H. Beard

GHB jk

LAYNE WELLS
AND
LAYNE PUMPS

FACTORIES:
MEMPHIS, TENN.
HOUSTON, TEXAS
LOS ANGELES, CALIF.



LAYNE-WESTERN COMPANY

AFFILIATED WITH LAYNE & BOWLER, INC.

TELEPHONE KENWOOD 5888

4430 COMMERCIAL AVENUE
OMAHA 11, NEBRASKA

July 17, 1946

JUL 18 '46

Dr. H. G. Hershey
Iowa Geological Survey
Iowa City, Iowa

Dear Dr. Hershey:

We are attaching driller's log book of new well completed for the city of Onawa, Iowa. This well was a 16" x 38" gravel wall type with 30' of 16" Everdur bronze Layne shutter screen installed. The well pumped 980 GPM with a 7'6" drawdown and a static level of 11'.

Yours very truly,

LAYNE-WESTERN COMPANY


G. H. Beard

GHB jk
Encl.

Onawa Well No. 4

Manron Co.

T.O. 122'

Layne-Western Co.

52" to 30" hole. Gravel packed after installing 30' of 16" screen and attached to 86' of 16"-3/4" wall welded pipe. 20' of 30" 6 gage casing pipe. Cemented between 16" & 30" pipe.

SWL 11' - dd 7'6" at 980 gpm.

Diller, Earl Reed - 7-6-46

Apr to Apr. 1944-45 269,772.6 gals/day average

" " 1945-46 273,578 gals/day average

Temp. of water - 54 to 58 ^{Temp} average about 56°F

W.E. Hale

Monona
Folder

**IOWA PRESS
CLIPPING BUREAU**

Des Moines, Iowa

Democrat
Onawa, Iowa

JUL 1 1946

**Onawa's New Deep
Well Is Completed**

The Layne Western Company, of Omaha, Nebraska on Saturday completed Onawa's new deep well at the Municipal Plant site and loaded their equipment on Sunday and moved to Geneva, Nebraska, where the company has another contract for putting down a well.

Earl Reed, foreman for the company, stated that the well was 125 feet deep and 16 inches in size. In a test pump Mr. Reed pumped continuously for five hours at the rate of 1500 gallons per minute, and only slightly lowered the water level in the

well. He also stated that he is sure that the well can be pumped indefinitely at the rate of 2,000 gallons per minute without lowering the water level in the well. This well has turned out to be one of the best of any of the wells at the plant according to those who know, and with this added well Onawa will always be well supplied with water.

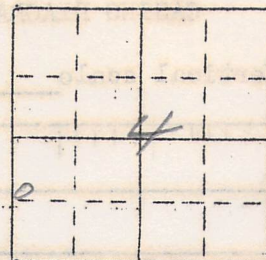
IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey

W-2389

RECORD OF WELL

Location:

Town: Omaha (NE)
(SW): County Monona
SWNW SW sec. 4 T 83 N., R. 45 W. B. Twp. 2



Well name and number

Owner Address

Tenant Address

Contractor Layne-Western Co Address Omaha

Drillers Earl Reed

Drilling dates May 23 - 1946

Well data:

Elevations: Drilling curb feet; Land surface 1043 feet

Determined by Alt-D Ross-49

Topographic position

Total depth: Reported 122 feet, Measured feet

Drilling method gravel well

Hole and casing data 16" x 38" with 30' of 16 inch

Everdun Bronze Layne shutter screen

Original depth to water 11 ^{above} ft. below Date

Original elevation of water level ft.; Source of data

Sources of water: Principal Pluistone; Others

Production data:

Date

June 27 July 1946

Static depth to water

11
1872

Measuring point

Pumping level

at

980

g.p.m.

Specific capacity

g.p.m. per ft. drawdown;

Temperature

°F.

Pump data: Type pump

Column Dia.

Length

Cylinder or bowls: Dia.

Length

Suction pipe

Power

Airline

Estimated rate of production:

g.p.m. for

hrs. a day

Use of water

WATER ANALYSES (in parts per million)

Date samples				
Sampled by				
Total solids				
Insoluble matter				
Alkalinity (Meo)				
Alkalinity (Phn)				
pH				
Fe ₂ O ₃ + Mn ₂ O ₃ + Al ₂ O ₃				
Alkali as sodium				
Calcium				
Magnesium				
Iron (unfiltered)				
Manganese				
Nitrate				
Fluoride				
Chloride				
Sulfate				
Bicarbonate				
Hardness (ppm)				
Hardness (gpg)				
Remarks				

Laboratory data:

Sample storage location

Sample range 3-120

No. spls. 25

No. dupls. & cond. 25 Ed

Spls. prepared by E. Schults

Washed range none

by

Driller's log and cond.

yes good

Insoluble residues: Prepared by

Studied by

Strip log

Microscopic study 3-120 Ed

strip log July 29 1946

Gen. log

Correl. by

E. Schults

DRILLER'S NOTEBOOK

WELL RECORD

DRILLER

Earl Reed

ADDRESS

*4430 Commercial
Ave. Omaha*

OWNER

City of Omaha

ADDRESS

Iowa

RETURN TO
IOWA GEOLOGICAL SURVEY
IOWA CITY, IOWA

WELL RECORD

Well is located _____ miles $\begin{matrix} \text{N} \\ \text{E} \\ \text{S} \\ \text{W} \end{matrix}$ and _____ miles $\begin{matrix} \text{N} \\ \text{E} \\ \text{S} \\ \text{W} \end{matrix}$ from

..... in
(Nearest Town) (County)

in the $\frac{1}{4}$ $\frac{1}{4}$ Sec. T. R.

Owner..... Well No.....

Postoffice address _____

Contractor Sayne western co

Address 4430 Commercial ave. Omaha

Driller Evel Reed

Well begun 5-23, 1946;

completed....., 19.....

Rig used—Cable, Rotary, Jet, or Casing

Depth of well.....
(Feet)

Size of hole (note total amount of each size).....

Main water supply at.....
(Feet below surface)

Final water head.....
(Feet above or below surface)

Is well pumped?

Yield _____
(Gallons per minute)

Water level when pumping

Position of well.....
(Upland, valley, side hill, etc.)

RECORD OF PERMANENT CASING

Size Pipe	Amount of Pipe	Depth to Bottom of Pipe	Depth to Top of Pipe	Type* and Weight of Pipe	DIAGRAM OF WELL

*As cast, wrought iron, steel, concrete, etc.

Is screen used? Bronge Diameter 1 1/2
(Inches)

Length 30 Depth to bottom _____
(Feet)

Depth to top _____ Slot size _____

Are packers or seals used? _____

Kind _____

Where used _____

Kind of pump _____ Dia. _____
(Inches)

Capacity of pump _____
(g.p.m.)

Power used _____
(Kind and amount)

Depth to bottom of pump line _____ feet,
including _____ feet tailpiece.

Remarks on construction of well _____

Sample No.	DEPTH		THICKNESS
	From	To	
ONE	3'	8'	
TWO	8'	13'	
THREE	13'	18'	
FOUR	18'	23'	
FIVE	23'	28'	
SIX	28	32'	
SEVEN	32'	38'	
EIGHT	38	42	
NINE	42	45'	
TEN	45	50	
ELEVEN	50	55	
TWELVE	55	60	
THIRTEEN	60	65	
FOURTEEN	65	70	
FIFTEEN	70	75	
SIXTEEN	75	80	
SEVENTEEN	80	85	

DESCRIPTION OF BEDS			
KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.			
sandy yellow soft clay			
yellow hard clay			
Blue hard clay			
Blue hard clay			
Very hard blue clay			
" " " "			
" " " "			
" " " "			
quick sand			
very dirty grav.			
sand blue clay grav.			
sand grav. clay			
sand grav			
extra hard blue clay			
Fine sand grav clay			
sand gravel			
Coal			

Sample
No.

DEPTH

From

To

THICKNESS

85

90

90

95

95

100

100

105

105

110

110

115

115

120

120

122

DESCRIPTION OF BEDS

KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.

Fine sand

sand and some gravel

sand and gravel

gravel and 6" to 12" boulders

" " 6" to 12" "

" " 8" to 16 boulders

Coarse gravel

" "